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ON CARROTS AND CELERY

Detection and Control of Carrot Weevil

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Carrot weevil (*Listronotus oregonensis*) infestations are becoming increasingly common in carrot and celery production in Michigan. Initial damage in both carrots and celery is small circular feeding holes left by the adults on the underside of leaf petioles. Later damage will appear as wilted or dead plants in the case of celery (Fig. 1) or larval tunneling on the outer surface of the carrot root (Fig. 2). Early season damage most often occurs to plants in border rows or row ends, near field margins.

Adults of the carrot weevil are small (5/16 inch) brown or black snout beetles (Fig. 3) with a faint white band around the mid-region of the hind leg. Larvae are legless, cream-white with brown to orangish heads. Pupae are cream-white with externally developing wings (Fig. 4, p. 2). Because of the root-feeding habits of the larvae and the excellent camouflage of the adults, damage is often not noticed until it has become severe or until harvest.

LIFE HISTORY

Adults overwinter in field margins and ditch-banks. They resume activity in mid-April to late May, when temperatures rise to approximately 60°F, and begin feeding and egg-laying. Adults feed and larvae develop on a number of weed

species (dock, plantain, dill, wild carrot, etc.), as well as on carrots and celery. The adults feed and lay eggs on the petioles of the celery plant or on the petioles or crown of the carrot. Larvae usually hatch within a week and bore down to the roots. They spend 2 to 4 weeks feeding and maturing before leaving to pupate in the surrounding soil. Adults emerge from these pupae as early as mid-June and begin laying eggs in 10 days to 2 weeks. Since a female may continue to lay eggs for several months, all stages of development (eggs, larvae, pupae, and adults) may be present at any time. In late summer or early fall, in response to shorter days, females cease laying eggs and the adults of both sexes migrate to suitable overwintering sites.

MONITORING AND DETECTION

The carrot weevil, although causing economic problems in only a few areas of the state, occurs in weed hosts throughout Michigan. For this reason, all celery and carrot growers should monitor their fields. This is not difficult and should be done in spring and early summer, before damage has become serious.

Trapping of adult weevils is an effective method of locating fields with potential problems, before significant damage has occurred. An effective trap



Fig. 1. Carrot weevil damage to celery.



Fig. 2. Carrot weevil damage to carrots, top 3 damaged.



Fig. 3. Carrot weevil, adults.